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EDITORIAL COMMENT

Improving Treatment of Patients With Atrial Fibrillation

Eliminating the Middleman*

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Atrial fibrillation (AF) is a growing health care problem in the United States. A recent study[1] suggests a prevalence of about 7 million now and possibly 12 million or more people with AF in 2030. The numbers are likely even greater for it is not uncommon to discover asymptomatic AF on routine pacemaker or implantable defibrillator interrogations. While the diagnosis of AF is relatively simple, therapy is multifaceted, involving decisions regarding prevention of stroke, maintenance of sinus rhythm, and prevention of heart failure.[2-5] Since it is difficult for non-electrophysiologists (EPs) to stay current on the ever-increasing randomized clinical trials that affect the therapy of AF, it is not surprising that many patients do not get optimum guideline-directed care, especially appropriate anticoagulation to prevent stroke.

How can this AF care problem be improved. In this issue of *JACC: Advances*, Lakkireddy et al[6] asked the question whether a streamlined treatment approach for patients presenting to the emergency room (ER) with new-onset AF could improve their time to definitive therapy and length of hospital stay (primary endpoints) and clinical outcomes (secondary endpoints). The study introduces the concept of an ER-to-EP (ER2EP) pathway, designed to expedite the evaluation of AF patients, regardless of whether they are admitted to the hospital or discharged directly from the ER. The ER2EP protocol was implemented in select ERs within the same health care system between 2019 and 2022, while others continued with routine care, thus forming the control group with no organized EP referrals.

The study was performed at 4 centers in the United States using a prospective observational registry. Each group enrolled 250 patients and all patients were followed for at least 12 months. Regardless of the study arm, electrophysiology services were managed by the same group of EPs across all facilities, allowing comparison of similar approaches. Not unexpectedly, the authors found that all patients in the ER2EP group had EP evaluation compared with only 53% in the routine care group. Furthermore, the ER2EP group experienced significantly shorter times to EP evaluation and initiation of various therapies compared with the control group. Importantly, they had a significantly higher utilization of oral anticoagulants (92% vs 81%) and antiarrhythmic drugs (75% vs 42%), and the time to initiation of anticoagulants was a mean of 2 days in the ER2EP group compared with nearly 20 days in the control group ($P < 0.001$). Interestingly, there was no difference in the percent of those eventually undergoing ablation between groups.

Regarding clinical outcomes, the ER2EP group had fewer hospital days at the index admission (2.4 ± 1.4 [median 2] days vs 3.23 ± 2.5 [median 3] days, $P = 0.002$), fewer ER visits for heart-related issues (5.2% (n = 13) vs 10.4% (n = 26), $P = 0.03$), and fewer hospitalizations 19.6% [n = 49] vs 36% [n = 90], $P < 0.001$), during the study period. However, there were no significant differences in stroke rates, bleeding complications, heart failure syndrome, or the number of cardioversions between the 2 groups.

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We agree with the authors that there were several important limitations to their study. The most important was the nonrandomized nature of the study. This likely led to the disproportionate numbers of non-paroxysmal AF patients in the ER2EP group, and subsequently might have affected the pattern of antiarrhythmic care they received. Also, physicians used to the pathway approach may have developed different patterns of overall AF care. These issues should be addressed in a subsequent randomized clinical trial of this important concept of care. We think the results on time to anticoagulation, percent of patients receiving anticoagulants and the reduction in length of stay are important observations with the use of the ER2EP pathway. However, the time to ablation is not as important as a patient having an early detailed discussion on the various treatment options and to be able to make an informed decision.

We applaud the authors for their innovative approach to streamlining up-to-date therapies for patients with newly diagnosed AF. Many of the findings of the study have long been suspected to be true by practicing EPs. However, the study confirmation that implementing an organized treatment pathway for AF patients in ER can lead to better outcomes should help convince the medical community and payers toward broader use of such an approach. It was somewhat surprising that nearly two-thirds of patients were hospitalized at the time of their index presentation.[6] We feel this is an area for improvement, and further work should be done on educating ER physicians on a therapeutic approach that would hopefully stabilize patients to the point that a timely outpatient workup would ensue. Newly diagnosed AF presents many challenging decisions for the patient and physician. Whom to anticoagulate and how, is sinus rhythm or rate control needed, if sinus rhythm is chosen then will an antiarrhythmic agent or ablation be chosen, and how can the patient help themselves regarding diet and avoidance of initiators for AF such as alcohol. EPs receive specialized training in caring for patients with AF and should be consulted early in the care of the patient to provide an approach to therapy. By eliminating the middleman, we hope to improve the care of AF patients.

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